METHOD FOR DETERMINING MOLECULAR PROPERTIES OF HYDROCARBON MIXTURES FROM NMR DATA

Abstract

A method for determining a molecular property of each constituent in a mixture of hydrocarbons includes deriving at least one dynamic parameter for each constituent in the mixture from NMR data measured on the mixture; and calculating the molecular property for the each constituent in the mixture from the at least one dynamic parameter for each constituent. The step of deriving the at least one dynamic parameter may include generating a model that includes a plurality of components for the constituents of the mixture and iteratively modifying the model components to optimize the model with respect to the NMR data. The at least one dynamic parameter includes a parameter selected from the group consisting of a longitudinal relaxation time, a transverse relaxation time, a ratio of longitudinal to transverse relaxation time, and a diffusion rate.